

Hazard Assessment for Munitions and Explosives of Concern: Workgroup Briefing Book

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Introduction

1.0 Purpose of Technical Working Group on Hazard Assessment (TWG-HA) for Munitions and Explosives of Concern (MEC)

The purpose of the TWG-HA is to develop a consensus-based approach to the methodology for performing a site-specific MEC hazard assessment. Participants in the TWG-HA report to an executive group, which is composed of representatives of Environmental Protection Agency, Department of Defense, Department of Interior, States (Association of State and Territorial Hazardous Waste Management Officials), and Tribes. The initial output of the group is a strawman proposal for input and approval by the executive group. The group will then work on the development of the consensus-based methodology. The executive group will make the decision as to when to release this methodology for review. Once released, the methodology will go through the normal response to comments and redrafting that is typical of such guidance. The TWG-HA will reconvene to respond to comments and make revisions as appropriate.

1.1 Purpose of This Workbook

The purpose of this workbook is to provide background information related to the efforts of the TWG-HA. The workbook is divided into four sections:

- Tab A: Introduction and draft agenda for the initial meeting on May 4th & 5th.
- Tab B: Definitions — includes definitions from accepted sources of terms related to hazard assessments at sites with MEC
- Tab C: Issue papers — addresses fundamental issues on which the TWG-HA should come to agreement before drafting a strawman document
- Tab D: Background — contains summary information and specific descriptions of hazard assessment methodologies and tools that have been developed to assist site-specific decision-making at sites with MEC

1.2 Background

A consensus approach is needed for developing site-specific hazard assessment guidance and tools to facilitate decision-making at sites that contain MEC. For cleanup actions conducted under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) process, in accordance with the National Contingency Plan (NCP), data must be gathered to characterize the site and develop potential remedies. Remedies are evaluated using nine criteria that reflect statutory preferences under CERCLA. As part of the data gathering for the site, the NCP requires that a site-specific risk assessment be conducted to facilitate decisions at the site. The NCP provides few details as to how this risk assessment is to be carried out; however, it suggests that the assessment should be appropriate to the requirements of the project. In addition, risk assessment guidance reflects fundamental differences between chemicals for which the human health effects of exposure are acute and immediate and those for which the human health effects are chronic (e.g., carcinogens).

Although ideas of what should constitute a hazard and risk assessment for MEC have been controversial in the past, events that have occurred since the publication of the Interim Range Rule Risk Methodology (IR3M) suggest that a number of opportunities exist for building on the past to create a process for the future. A number of organizations' projects (Fort Ord, Adak Island, and the U.S. Army Corps of Engineers *Ordnance and Explosives Risk Impact Assessment Guidance*) have used some of the best of what was developed in the past to create their own approaches to hazard and risk assessment. These projects have been well received and have provided useful methods for assessing and managing site conditions. Examination of these approaches suggests that achieving consensus on a workable approach is possible.

The term *hazard assessment* is used in this workbook to distinguish between the traditional risk assessment and management requirements that apply to chemical sites and assessment at sites where the concern is MEC. A hazard assessment at a site with MEC may meet the NCP requirements for site-specific risk assessments, but it may be fundamentally different from a risk assessment at a site contaminated with chemicals, reflecting the nature of the hazards and the unique decisions to be made at sites with MEC. Tab C of this workbook contains a series of issue papers that focus on the degree to which a hazard assessment will or should be different from the site-specific risk assessments that are part of the more traditional process.

1.3 Issue Papers

The topic and issue papers contained in Tab C are intended to help center the discussions during the course of the initial TWG-HA meeting. The consensus that is reached during those discussions, and answers to other issues that are identified, will form the principles for the drafting of the strawman, and will help in the development of the MEC Hazard Assessment Methodology Guidance. The issues presented in this workbook are divided into broad topics that build on each other. Some of the issues are presented as option papers; others do not present options, but present considerations around a particular topic. An overview of the topics and issues papers is described below.

I. The purpose or purposes of an MEC hazard assessment

1. To what degree does the assessment of hazards at a Munitions Recovery Site adhere to the traditional risk assessment process? How can/should a hazard assessment process be distinguished from the risk assessment process?
2. What are the purposes of an MEC hazard assessment? What must the hazard assessment do to be useful?

II. The potential features of an MEC hazard assessment

3. What is the role of uncertainty in the assessment of an MEC hazard?
4. Is it necessary or useful to estimate a probabilistic risk (of exposure? of death?) for MEC?

5. What input factors are necessary to perform a useful hazard assessment?
6. How quantitative should the input factor for amount of MEC be? This factor can range from MEC present/absent to statistical estimates of density.

III. Functions of the MEC hazard assessment

7. How should national guidance developed for an MEC hazard assessment provide a consistent framework for data analysis and format for data presentation?
8. How should an MEC hazard assessment support the analysis of response alternatives?
9. To what degree should the MEC hazard assessment framework reflect the goal of enhancing communication with the public?

Draft Agenda

DAY 1: Tuesday, May 4, 2004

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| 8:00 a.m. – 8:30 a.m. | Introductions and Welcome – Kevin Oates, U.S. EPA,
Chairperson and convener |
| | <ul style="list-style-type: none">• Introductions• Agenda Review |
| 8:30 a.m. – 9:00 a.m. | Mission and Ground Rules |
| 9:00 a.m. – 10:00 a.m. | Review of Issue Topics |
| | <ul style="list-style-type: none">• Examine understanding of topic• Identify additional critical issues• Prioritize issues |
| 10:00 a.m. – 10:15 a.m. | Break |
| 10:15 a.m. – 12:00 p.m. | Issue Paper Discussion |
| | <ul style="list-style-type: none">• For each issue paper<ul style="list-style-type: none">○ Identify consensus, if possible○ Identify additional issues/questions that should be addressed |
| 12:00 p.m. – 1:00 p.m. | Lunch |
| 1:00 p.m. – 3:00 p.m. | Issue Paper Discussion (continued) |
| 3:00 p.m. – 3:15 p.m. | Break |
| 3:15 p.m. – 5:00 p.m. | Additional Issues |
| | <ul style="list-style-type: none">• Work through additional issues identified in the morning sessions• Identify additional information, if any, that is required to address the issue |

DAY 2: Wednesday, May 5, 2004

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| 8:00 a.m. – 9:00 a.m. | Additional Issues (continued) |
| 9:00 a.m. – 10:15 a.m. | Based on previous discussion, what are the criteria that a Hazard Assessment framework must meet? |

10:15 a.m. – 10:30 a.m.	Break
10:30 a.m. – 11:45 a. m.	Based on previous discussion: <ul style="list-style-type: none"> • Outline content of the strawman & hazard assessment guidance • Identify principles and features that go into each section
11:45 a.m. – 1:00 p.m.	Lunch
1:00 p.m. – 3:00 p.m.	Based on previous discussion: <ul style="list-style-type: none"> • Outline content of the strawman & hazard assessment guidance • Identify principles and features that go into each section
3:00 p.m. – 3:15 p.m.	Break
3:15 p.m. – 4:15 p.m.	Wrap-up <ul style="list-style-type: none"> • Summarize action items • Identify next steps • Outline schedule